



PHYSICIANS' SOCIETY OF HALLE ON THE SAALE.

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LECTURE

BY

PROFESSOR KOHLSCHÜTTER,

ON

DR. LOUIS WEIGERT'S

METHOD OF

TREATING CONSUMPTION.

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HALLE, February 20th, 1889.

## MEETING OF THE PHYSICIANS' SOCIETY.

Professor Weber, Director of the Medical Clinic and Polyclinic of the University of Halle, presiding.

PROFESSOR KOHLSCHÜTTER.

*Mr. Chairman and Fellow Colleagues.*

When Dr. Weigert first published his theory in regard to the curing of consumption, I was attracted by the seemingly absolute correctness of his deductions. First and foremost came the fact that tubercle-bacilli, much more so than any other kind, are especially susceptible to changes in temperature.

We know that the temperature most favorable to their development is 99.5° F. They become extremely weakened at 101.5° F., and at 107.5° F. their development ceases altogether. Therefore, it would seem that if it were possible to heat to a sufficient degree those portions of the lungs which contain the tubercle-bacilli, this would necessarily destroy the bacilli. One objection presented itself to my mind, and that was, if a cure by hot air is possible, can it be effected without keeping the tissue of the lungs continually subjected to a certain heat. As the patient can only inhale during a limited period of time daily, and as in this time all the bacilli cannot be destroyed, we have a continual growth of new ones, and it would seem as if the old conditions would always be retained. However, on closer examination we must admit the possibility of attaining a complete sterilization by many partial sterilizations; this case being analogous to the way in which the farmer rids his garden of weeds, by digging them out each time they grow before they have attained full bloom, or to the well-known method of sterilizing milk.

So far I have spoken only of these matters as possibilities, and they would be of little value if they had not been proven. It is greatly to the credit of Dr. Weigert that he, firstly, by experiments proved it to be possible by intermitting sterilization to stop the development of the tubercle-bacilli and to so gradually destroy the entire number existing in the lungs;

and secondly, that he has shown us the astonishing fact that persons can without any injury to themselves inhale dry air heated to a very high degree. The thermometer in Dr. Weigert's apparatus registers the temperature of the air passing it up to 500° F. This superheated air becomes somewhat cooled in passing through the inhaling tube from the thermometer to the mouth; air also enters through the nose and corners of the mouth; therefore the inhaled air is not actually as hot as 500°, but still its temperature must be very high, as the exhaled air has still a temperature of 140° F. That alone is hot enough to destroy the bacilli. By a strange coincidence I examined and treated in common with Dr. Eberius a consumptive patient who was using Dr. Weigert's apparatus, and I wish to say that the good results in his case induced me to get an apparatus myself and employ it in the treatment of several other patients. The results of my observations during seven weeks' treatment of one patient were as follow: a considerable increase in the size of the chest, its circumference increased from thirty-five to thirty-seven and a half inches; a disappearance of, firstly, a pleuritic exudation on the left side, of the abnormal respiratory sounds, of râles, and of dulness.

There is now on both sides perfectly normal breathing. More important than these results is, however, the result shown by the microscopic examination of the sputa. In this I went to work with the greatest possible care and precision; I prepared six specimens from different portions of the sputa, and found in the first examination numerous bacilli in every field of each specimen. In the second examination, after several weeks, I found in the first preparation very few bacilli, in the second none at all, in the third about four, and so on, there being altogether in the six preparations about thirty, and I can positively maintain that I counted all that were in the preparations. This in itself would not be sufficient proof that the number of bacilli in the lungs was lessened; the difference in the quantity might have been due to chance. However, three weeks later I obtained the same results; and what especially attracted my attention in this last examination was that the bacilli were in quite a different condition. Whereas in the first preparations, made before the patient began inhaling, I found, evenly distributed throughout the specimen, many fully developed smooth as well as beaded bacilli in the later preparations I found only the beaded, and always close together in groups of three or four. My researches up to now confirm what Dr. Weigert says about the immediate effects from breathing superheated dry air. In all cases there was a slight increase in the temperature of the body, which increase lasts only a very short time. The average temperature of patients without fever did not show any increase; I cannot as yet state as to whether this would also be the case with patients having fever. The pulse quickens very slightly. A patient who had inhaled twice daily for

seven weeks, counted his pulse before and after each inhalation, and the total result was a difference of five beats. Breathing becomes deeper and less frequent, the first patient respiring but seven times a minute while using the apparatus. This is surely not alone brought about by the will, nor on the other hand by the high temperature, but purely and simply by the exertion necessary in inhaling. The patient's difficulty in breathing ceased, and he can walk far and ascend easily. The cough at first increased slightly, the expectoration very much, then both lessened and finally stopped entirely. The general nutrition progressed favorably, and his weight increased from  $160\frac{1}{2}$  to  $161\frac{3}{4}$  pounds. The general condition of patient—and this is also true of all that have inhaled but a very short time—is excellent.

I must now wait to see what the further microscopic examinations will reveal as to the presence of bacilli. That they did not all disappear in the seven weeks of treatment, lies in the nature of the matter. We cannot expect to kill all the germs at once, and if with Dr. Weigert's method we can but destroy a few more daily than those that are formed, we will find in it a much better weapon than we have ever had, to combat this dread disease. Even if the cure take months and months; even if it require patience and endurance on the part of the patient, and continued attention on the part of the physician; even if the cost of the apparatus is high, whoever as a doctor has fought the hopeless battle against the inroads of consumption, whoever has seen the development from an apparently trifling beginning to the last heartrending stages of phthisis, will, notwithstanding the difficulties, gladly avail himself of the new means of combat. Therefore it appears to me necessary to give the new method an earnest trial, and the medical profession should not disdainfully ignore this, as it has done to its disadvantage and sorrow in the case of several great discoveries in medicine. The oftener and more widely spread the researches in this matter are made, the quicker we can hope to be able to give a positive opinion about it. Now, where Dr. Weigert's method is being so much spoken of in scientific journals, newspapers, periodicals, etc., it is quite sure that the large mass of consumptives will ask their doctors if they would advise a trial of the new method. To give you some idea of the apparatus and its use, and to prove to you that the new method was well worth being accorded a trial, were the reasons that induced me to speak before you to-day.